ABSTRACT OF THE DISCLOSURE

A dynamic electrostatic aerosol filter and collection system is provided that collects airborne particulate matter, including biological materials. Once collected, the particles can be directed to sensing stations for real-time detection of dangerous materials, and this can be achieved in a continuous re-circulation system. As an option, the collection fluid can be diverted to a station where a detailed analysis is performed, in a batch operation. The filter/collection system is also useable as a concentration "concentrator" to more quickly detect dangerous materials, such as smallpox germs.